Attorney Docket No.: A-69850-1/DJB/RMS/DCF



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

FAN et al.

Serial No. 09/779,202

Filed: February 7, 2001

For: NUCLEIC ACID DETECTION

METHODS USING UNIVERSAL

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Examiner: NOT YET ASSIGNED

Group Art Unit: 1645

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Washington, DC 20231 on:

Dated: Signed:

Christine P. Peters

INFORMATION DISCLOSURE STATEMENT AND STATEMENT OF RELATEDNESS

Assistant Commissioner for Patents Washington, DC 20231

Sir:

In satisfaction of the duty of disclosure under 37 C.F.R. § 1.56, and in accordance with the provisions of 37 C.F.R. §§ 1.97 and 1.98, Applicant wishes to draw the attention of the U.S. Patent and Trademark Office to the references cited on the accompanying form PTO-1449. Copies of the documents are enclosed herewith.

With respect to patent applications, the applicants point out their duty under M.P.E.P. §2001.06(b) to disclose relevant patent applications of which they are aware. To this end, the applicants draw the Examiner's attention to the following patent applications:

1. U.S.S.N. 08/944,850, filed October 6, 1997; U.S.S.N. 09/287,573, filed April 6, 1999.

Serial No.: 09/779,202 **Filed**: February 7, 2001

- 2. U.S.S.N. 08/818,199, filed March 24, 1997, now Patent No. 6,023,540; U.S.S.N. 09/151,877, filed September 11, 1998; U.S.S.N. 09/786,896, filed September 10, 1999; U.S.S.N. 09/450,829, filed November 29, 1999; U.S.S.N. 09/816,651, filed March 23, 2001; U.S.S.N. 09/840,012, filed April 20, 2001.
- 3. United States Serial Number 09/189,543, filed November 10, 1998; U.S.S.N. 09/344,526, filed June 24, 1999; U.S.S.N. 09/748,706, December 22, 2000.
- 4. U.S.S.N. 09/256,943, filed February 24, 1999; U.S.S.N. 09/473,904, filed December 28, 1999; U.S.S.N. 09/606,369, filed June 28, 2000.
- 5. U.S.S.N. 09/553,993, filed April 20, 2000; U.S.S.N. 09/556,463, filed April 21, 2000.
- U.S.S.N. 09/425,633, filed October 22, 1999; U.S.S.N. 09/535,854, filed March 27,
 2000.
 - 7. U.S.S.N. 09/517,945, filed March 3, 2000.
 - 8. U.S.S.N. 09/513,362, filed February 25, 2000.

None of the foregoing references are believed to disclose the invention as claimed.

Nothing herein shall constitute an admission concerning the contents of any of the cited references, nor shall the inclusion of a reference herein be considered an admission that the reference constitutes prior art against the invention claimed in the above-identified application. Submission of the present document shall not be construed as an admission that a search has been made or that better art does not exist.

This Information Disclosure Statement is being filed within three months of the filing date of a national application, within three months of the date of entry of a national stage, or

Serial No.: 09/779,202 Filed: February 7, 2001

before the mailing date of a first Office Action on the merits. 37 C.F.R. § 1.97(b), and therefor no fee is required. The Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 06-1300 (Our Order No. A-69850-1/DJB/RMS/DCF).

Respectfully submitted,

FLEHR, HOHBACH, TEST, ALBRITTON & HERBERT

David C. Foster Reg. No. 44,685

Four Embarcadero Center Suite 3400 San Francisco, CA 94111-4187 Telephone: (415) 781-1989 Sheet

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Approved for use through 10/31/2002. OMB 0651-0031 U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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STATEMENT BY APPLICANT

of

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First Named Inventor JIAN-BING FAN et al. Group Art Unit 1645 **Examiner Name** NOT YET ASSIGNED Attorney Docket Number A-69850-1/DJB/RMS/DCF

		.=		U.S. PATENT DOC	UMENTS	
Examiner Initials*	Cite No.1	Vind Code?		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document	Pages, Columns, Lines, Where Relevant
		Number	(if known)		MM-DD-YYYY	Passages or Relevant Figures Appear
	1	4,200,110		Peterson et al.	4/1980	
	2	4,499,052		Fulwyler	2/1985	
	3	4,682,895		Costello	7/1987	
	4	4,785,814		Kane	11/1988	
	5	4,822,746		Walt	4/1989	
✓	6	4,824,789		Yafuso et al.	4/1989	
	7	4,999,306		Yafuso et al.	3/1991	
	8	5,002,867		Macevicz	3/1991	
	9	5,028,545		Soini	7/1991	
	10	5,105,305		Betzig et al.	4/1992	
	11	5,114,864		Walt	5/1992	- 7
	12	5,132,242		Cheung	7/1992	
	13	5,143,853		Walt	9/1992	
	14	5,194,300		Cheung	3/1993	
	15	5,244,636		Walt et al.	9/1993	·

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Initials*	110.	Office ³		(ind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Cited Document MM-DD-YYYY		T ⁶
	16	EP	0 269 764			6/1988		
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	19	EP	0 723 146		/	7/1996		\top
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	21	wo	93/02360			2/1993		
	22	wo	96/03212			2/1996		1
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1 Unique citation designation number. 2 See attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 3 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 4 Applicant is to place a check mark here if English

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 6

Complete if Known						
Application Number 09/779,202						
Filing Date	February 07, 2001					
First Named Inventor	ЛАN-BING FAN et al.					
Group Art Unit	1645					
Examiner Name	NOT YET ASSIGNED					
Attorney Docket Number	A-69850-1/DJB/RMS/DCF					

				U.S. PATENT DOC	UMENTS		
Examiner Initials*	Cite No.1	U.S. Patent Document		Name of Patentee or Applicant	Date of Publication of	Pages, Columns, Lines, Where Relevant	
nadais.		Number	Kind Code ² (if known)	of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	
	27	5,244,813		Walt et al.	9/1993	•	
	28	5,250,264		Walt et al.	10/1993		
	29	5,252,494		Walt	10/1993		
	30	5,254,477		Walt	10/1993		
	31	5,298,741		Walt et al.	3/1994		
	32	5,302,509		Cheeseman	4/1994		
	33	5,320,814		Walt et al.	6/1994		
/	34	5,357,590		Auracher	10/1994		
	35	5,380,489		Sutton et al.	1/1995		
	36	5,435,724		Goodman et al.	7/1995		
	37	5,474,895		Ishii et al.	12/1995		
	38	5,481,629		Tabuchi	1/1996		
\ \	39	5,494,798		Gerdt et al.	2/1996		
	40	5,496,997		Pope	3/1996		
	41	5,512,490		Walt et al.	4/1996		
	42	5,516,635		Ekins et al.	5/1996		
✓	43	5,565,324		Still et al.	10/1996		

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	44	wo	98/50782			11/1998		
	45	WO	98/53093			11/1998		
	46	WO	98/53300			11/1998		1
	47	wo	99/18434			4/1999		
	48	WO	99/60170			11/1999		1
	49	WO	99/67414			12/1999	"	_
	50	WO	99/67641			12/1999		-
	51	WO	00/04372			1/2000		1
	52	wo	00/13004			3/2000	***	

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Attorney Docket Number | A-69850-1/DJB/RMS/DCF

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					Filing Date	February 07, 2001
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	53	5,573,909		Singer et al.	11/1996	
	54	5,575,849		Honda et al.	11/1996	
/	55	5,633,972		Walt et al.	5/1997	
	56	5,639,603		Dower et al.	6/1997	
	57	5,656,241		Seifert et al.	8/1997	
	58	5,690,894		Pinkel et al.	11/1997	
	59	5,814,524		Walt	10/1998	
	60	5,840,256		Demers et al.	11/1998	
_/	61	5,854,684		Stabile et al.	12/1998	
	62	5,863,708		Zanzucchi et al.	1/1999	
/	63	5,888,723		Sutton et al.	3/1999	
	64	5,900,481		Lough et al.	5/1999	
	65	6,023,540		Walt et al.	2/2000	
/	66	5,679,524		Nikiforov et al.	10/1997	
	67	5,856,083		Chelsky et al.	01/1999	
	68	5,858,732		Solomon et al.	01/1999	

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Examiner	Cite No.1	Foreign	n Patent Docum			Name of Patentee or Applicant	Date of Publication of	Pages, Columns, Lines,		
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	69	WO	00/16101				3/2000		\top	
	70	WO	00/39587				7/2000		\top	
	71	WO	00/47996				8/2000		\dagger	
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	74	WO	00/71243				11/2000	· · · · · · · · · · · · · · · · · · ·	1	
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Sheet 4 of 6

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Application Number 09/779,202						
Filing Date	February 07, 2001					
First Named Inventor	JIAN-BING FAN et al.					
Group Art Unit	1645					
Examiner Name	NOT YET ASSIGNED					
Attorney Docket Number	A-69850-1/DJB/RMS/DCF					

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		Number	Kind Cod (if know		of Cited Document	MM-DD-YYYY	Passages or Relevant Figures Appear
	77	6,013,456			Akgavan-Tafti	01/2000	<u> </u>
	78	6,051,380			Sosnowski et al.	04/2000	
	79	6,110,678			Weisburg et al.	08/2000	
	80	6,172,218		Bl	Brenner	01/2001	
	81	6,083,763			Balch	07/2000	······································
	82	5,854,033			Lizardi	12/1998	
	83	5,554,516			Kacian et al.	09/1996	
	84	5,541,311			Dahlberg et al.	07/1996	
	85	5,660,988			Duck et al.	08/1997	

					FOREIGN PATENT DOCUME	NTS		
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Complete if Known					
Application Number	09/779,202				
Filing Date	February 07, 2001				
First Named Inventor	JIAN-BING FAN et al.				
Group Art Unit	1645				
Examiner Name	NOT YET ASSIGNED				
Attorney Docket Number	A-69850-1/DJB/RMS/DCF				

Evamina-	Cita	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the	Т				
	No. 1						
	87	Abel et al., "Fiber-Optic Evanescent Wave Biosensor for the Detection of Oligonucleotides," Anal. Chem. 68:2905-2912 (1996).					
	88	Anonymous, "Microsphere Selection Guide," Bandg Laboratories, (Fisher, In) September 1998.	Τ				
	89	Anonymous, "Fluorescent Microspheres," Tech. Note 19, Bang Laboratories, (Fishers, In) February 1997.					
	90	Bangs, L.B., "Immunological Applications of Microspheres," The Latex Course, Bangs Laboratories (Carmel, IN) April 1996.	T				
	91	Barnard et al., "A Fibre-Optic Chemical Sensor with Discrete Sensing Sites," Nature, 353:338-340 (September 1991).	T				
	92	Chen et al., "A Microsphere-Based Assay for Multiplexed Single Nucleotide Polymorphism Analysis Using Single Base Chain Extension," Genome Research, 10(4):549-557 (2000).	Ī				
	93	Czarnik, "Illuminating the SNP Genomic Code," Modern Drug Discovery, 1(2): 49-55 (1998).					
	94	Drmanac, R. et al., "Sequencing by Oligonucleotide Hybridization: A Promising Framework in Decoding of the Genome Program," The First International Conference on Electrophoresis, Supercomputing and the Human Genome, Proceeding os th April 10-13, 1990 Conference at Florida State University. Ed. C. Cantor and H. Lim.					
	95	Drmanac, R. et al., "Prospects for a Miniaturized, Simplified and Frugal Human Genome Project," Scientia Yugoslavica, 16(1-2):97-107 (1990).	Ī				
	96	Drmanac, R. et al., "Sequencing by Hybridization (SBH) with Oligonucleotide Probes as an Integral Approach for the Analysis of Complex Genomes," International Journal of Genome Research, 1(1):59-79 (1992).					
	97	Drmanac, R. et al., "Sequencing by Hybridization," Automated DNA Sequencing and Analysis, ed. M. Adams, C. Fields and J. Venter. (1994).	ľ				
	98	Ferguson et al., "A Fiber-Optic DNA Biosensor Microarray for the Analysis of Gene Expression," Nature Biotechnology, 14:1681-1684 (1996).					
	99	Fuh et al., "Single Fibre Optic Fluorescence pH Probe," Analyst, 112:1159-1163 (1987).	Γ				
	101	Healey et al., "Improved Fiber-Optic Chemical Sensor for Penicillin," Anal. Chem. 67(24):4471-4476 (1995).					
	102	Healey et al., "Development of a Penicillin Biosensor Using a Single Optical Imaging Fiber," SPIE Proc. 2388:568-573 (1995).					
	103	Healey et al., "Fiberoptic DNA Sensor Array Capable of Detecting Point Mutations," Analytical Biochemistry, 251:270-279 (1997).					
	104	Hirschfeld et al., "Laser-Fiber-Optic "Optrode" for Real Time In Vivo Blood Carbon Dioxide Level Monitoring," Journal of Lightwave Technology, LT-5(7):1027-1033 (1987).					
	105	Iannone et al., "Multiplexed Single Nucleotide Polymorphism Genotyping by Oligonucleotide Ligation and Flow Cytometry," Cytometry, 39:131-140 (2000).					

Examiner Signature	Date Considered	

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Complete if Known

Application Number 09/779,202

Filing Date February 07, 2001

First Named Inventor JIAN-BING FAN et al.

Group Art Unit 1645

Examiner Name NOT YET ASSIGNED

A-69850-1/DJB/RMS/DCF

-	r	OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS	_
Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	106	Michael et al., "Making Sensors out of Disarray: Optical Sensor Microarrays," Proc. SPIE, 3270: 34-41 (1998).	T
	107	Michael et al., "Randomly Ordered Addressable High-Density Optical Sensor Arrays," Anal. Chem. 70(7): 1242-1248 (April 1998).	Ī
	108	Michael et al., "Fabrication of Micro- and Nanostructures Using Optical Imaging Fibers and there Use as Chemical Sensors," Proc. 3rd Intl. Symp., Microstructures and Microfabricated Systems, ed. P.J. Hesketh, et al., v. 97-5, Electrochem. Soc., 152-157 (Aug. 1997).	
	109	Mignani, et al., "In-Vivo Biomedical Monitoring by Fiber-Optic Systems," Journal of Lightwave Technology, 13(7): 1396-1406 (1995).	Ī
	110	Pantano et al., "Ordered Nanowell Arrays," Chem. Mater., 8(12): 2832-2835 (1996).	T
	111	Peterson et al., "Fiber-Optic Sensors for Biomedical Applications," Science, 13:123-127 (1984).	T
	112	Peterson, J. et al., "Fiber Optic pH Probe for Physiological Use," Anal. Chem., 52:864-869 (1980).	Ī
	113	Piunno et al., "Fiber-Optic DNA Sensor for Fluorometric Nucleic Acid Determination," Anal. Chem., 67:2635-2643 (1995).	
	114	Pope, E. "Fiber Optic Chemical Microsensors Employing Optically Active Silica Microspehres," SPIE, 2388:245-256 (1995).	
	115	Strachan et al., "A Rapid General Method for the Identification of PCR Products Using a Fibre-Optic Biosensor and its Application to the Detection of Listeria," Letters in Applied Microbiology, 21:5-9 (1995).	
	116	Walt, D. "Fiber Optic Imaging Sensors," Accounts of Chemical Research, 31(5): 267-278 (1998).	T
	117	Walt, "Fiber-Optic Sensors for Continuous Clinical Monitoring," Proc. IEEE, 80(6): 903-911 (1992).	Γ
	118	Lyamichev et al., "Polymorphism identification and quantitative detection of genomic DNA by invasive cleavage of oligonucleotide probes," Nature Biotechnolgoy, 17:292-296 (1999).	
	119	Metzker et al., "Termination of DNA synthesis by novel 3'-modified-deoxyribonucleoside 5'-triphosphates," Nucleic Acids Research, 22(20):4259-4267 (1994).	
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Complete if Known Application Number 09/779,202 Filing Date February 07, 2001 First Named Inventor FAN et al. **Group Art Unit** 1645 **Examiner Name** Not Yet Assigned

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Attorney Docket A-69850-1/DJB/RMS/DCF Number

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		Number Kind Code (if known		of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	
	1	5,494,810		Barany et al.	02/1996		
	2	5,604,097		Brenner	02/1997		
	3	5,632,957		Heller et al.	05/1997		
	4	5,763,175		Brenner	06/1998		
	5	5,780,231		Brenner	07/1998		
	6	5,795,714		Cantor et al.	08/1998		
	7	5,830,711		Barany et al.	11/1998		
	8	5,976,797		Mitsuhashi	11/1999		
	9	6,027,889		Barany et al.	02/2000		
	10	6,054,564		Barany et al.	04/2000		
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	32	Baner et al., "Signal amplification of padlock probes by rolling circle replication," Nucleic Acids Research, 26(22): 5073-5078 (1998).	╁
	33		
		Lizardi et al., "Mutation detection and single-molecule counting using isothermal rolling-circle amplification," Nature Genetics, 19: 225-232 (July 1998).	T
_	34	Ronaghi et al., "A Sequencing Method Based on Real-Time Pyrophosphate," Science, 281:363-365 (1998).	t
	35		
		Shoemaker et al., "Quantitative phenotypic analysis of yeast deletion mutants using a highly parallel molecular bar-coding strategy," Nature Genetics, 14:450-456 (1996).	T
	36	Syvanen, Anne-Christine. "From gels to chips: "Minisequencing" Primer Extension for Analysis of Point Mutations and Single Nucleotide Polymorphisms," Human Mutation, 13:1-10 (1999).	\dagger
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